

cont'd
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and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory; and

(c) the memory associated with the receiver sheet consumable, the memory being coupled to said transponder, said memory having data stored therein uniquely associated with the receiver sheet consumable, whereby the second electromagnetic field carries the data stored in said memory while the second electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.

REMARKS

By this amendment Claims 1-3,6,8-21 and 26-54 are in the application. Claims 4, 5,7 and 22-25 have been canceled. New claims 50-53 have been added to the application. Reconsideration of the rejection is respectfully requested in view of the following remarks.

Claim 1 as presently amended is directed to a printer which selectively deposits a color ink onto a receiver to form an image on receiver. The printer is adapted to **sense and update** data uniquely associated with an ink containing consumable loaded into the printer, such as an ink cartridge for example. The printer includes a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The first electromagnetic field contains data for writing into a memory associated with the ink containing consumable. The transponder is coupled to the ink containing consumable and is adapted to receive the first electromagnetic field and generate a second electromagnetic field. The transponder is adapted to read data from the memory and write updated data to the memory in accordance with an **instruction code** from the transceiver in the first electromagnetic field. Applicants have considered the prior art reference of Purcell and note that there is no teaching or suggestion of this feature in this reference of the use of a **code** in the first electromagnetic field to determine whether data is **read or written** to the memory. Additionally, the Examiner recognizes that Purcell fails to teach the use of this type of the memory for use with an ink containing consumable. The Examiner has also cited Dorez. However, Dorez does not disclose or suggest **both reading and writing** from a memory. Nor does Dorez disclose the feature of providing an instruction code in the electromagnetic field from the transceiver to determine whether it is a reading

or writing instruction. Therefore, it is submitted that claim 1 recites patentable subject matter over the prior art either taken alone or in combination.

Claim 6 has been amended to be in independent form. Claim 6 is directed to a printer of the type which selectively deposits a color marking material onto a receiver, the printer being adapted to sense and update data uniquely associated with a **cleaning consumable** loaded into the printer. The printer comprises a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field. The transponder is coupled to a cleaning fluid consumable and is powered by energy in the electromagnetic field from the transceiver. The transponder is adapted to read data from the memory and **write updated data to the memory** in accordance with **an instruction code** from the transceiver in the first electromagnetic field. It is noted that neither Purcell nor Dorez discloses the use of a cleaning fluid consumable. Nor do these references suggest why one would have the transceiver and transponder associated with such consumable particularly where the consumable has a memory that is subject to having data read from or written to the memory in response to an instruction code. For the above reason, it is submitted that claim 6 is also patentable over Purcell and Dorez either taken individually or in combination.

Independent Claim 8 is directed to a printer of the type which deposits a color marking material onto receiver to form an image, the printer comprising a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field; a first transponder including a first memory coupled to a first consumable; a second transponder including a second memory coupled to a second consumable and an wherein the **transceiver is adapted to alternately communicate with the first and second transponders**. This is not a feature taught by either Purcell or Dorez taken individually or in combination. Purcell describes a single transceiver and transponder device wherein the transponder is associated with a roll of media. There is no indication in Purcell of multiple devices associated with a printer consumable that are interrogated alternately by a transceiver device. Dorez discloses a printer having an ink consumable however Dorez too fails to teach that a transceiver is adapted to alternately communicate with the first and second transponders associated with different consumables in a printer. For the above reason it is submitted that claim 8 is also patentable over

this prior art either taken individually or in combination.

Independent claim 19 is directed to a method in which a printer operates to deposit ink onto a receiver to form an image, the method being for sensing data uniquely associated with an ink consumable loaded into the printer. The method claim recites operating of a transceiver to transmit a first electromagnetic field, the first electromagnetic field including **a code providing a command to read or write data**. The method further provides a transponder associated with the ink consumable. The transponder responds to the code in the first electromagnetic field to provide a command to read data from the memory and provides a second electromagnetic field that carries information relative to data stored in the memory. In addition, **the transponder responds to a code providing a command to write data** and provides a signal to the memory to apply information from the first electromagnetic field into the memory. As noted above, the provision of a code to determine reading and writing of data from the first electromagnetic field emitted by a transceiver is not a feature taught by Purcell or Dorez. This feature allows for selective updating of certain information that the consumable's memory is to contain. Thus, it is submitted that Claim 19 is patentable over Purcell and Dorez taken individually or in combination.

Independent claim 26 is directed to a method of sensing data uniquely associated with a printer consumable that is loaded into a printer. The method comprises the steps of providing a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field; providing a first transponder including a first memory coupled to a first consumable and providing a second transponder including a second memory coupled to a second consumable. **The transceiver polls the respective transponders so that each of the transponders is responsive to a respective first electromagnetic field emitted by the transceiver and each transponder generates a second electromagnetic field in response to the respective first electromagnetic field received thereby wherein the second electromagnetic field sensed by the transceiver is characteristic of the data stored in the respective memory.** As noted above, neither Purcell nor Dorez discloses the use of a printer having a transceiver that **polls plural transponders** respectively associated with plural consumables used in the printer. This provides

an efficient mechanism for reading information concerning the consumables. Thus, it is submitted that claim 26 is also patentable over Purcell and Dorez taken individually or in combination.

Claim 43 is considered a hybrid type claim and is directed to an ink container that includes an ink consumable for use in a printer wherein the container includes a transponder and memory specially adapted for use in the method of claim 19. The transponder is adapted to receive the energy from a first electromagnetic field that is generated by the transceiver and powers the transponder with the **code indicating a read or write command for the memory**. The energy is usable in accordance with a read code to generate a signal representing data stored the memory about the consumable for sensing by the transceiver and usable for a write code to write information into the memory providing an update of the amount of consumable used or remaining. In addition, **the memory stores an update of the consumable used from or remaining in the container.**

It is submitted that claim 43 is definite under 35 USC 112 even though it makes reference to a process claim. In this regard the Examiner is referred to the **MPEP section 2173.05 (p)** wherein it states that "a claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process in which it is intended to be used without being objectionable under 35 USC 112, second paragraph, so long as it is clear that the claim is directed to the product and not the process." It is submitted that this condition is met by claim 43 reciting that it is directed to an ink container. In addition the Examiner is referred to **MPEP 2173.05 (q)** which makes reference to the case Ex parte Porter, 25 USPQ2d 1144 in which the Board of Appeals found a method claim patentable even though it made reference to a prior claim directed to a nozzle.

In addition it is submitted that claim 43 is patentable over Purcell or Dorez taken individually or together since neither of these references teaches of an ink container used in a printer, the container including a transponder that is capable of responding to a read or write command provided in an electromagnetic field from a transceiver and wherein a **write code** is used to write information into the memory providing an updated amount of consumable used or remaining in the memory and the memory stores such updated information. Thus claim 43

is submitted to be both definite and patentable.

Newly submitted independent **claim 50** is directed to a method for use in a printer which operates to deposit color marking material onto a receiver. The method is for sensing data uniquely associated with a **waste material container** loaded into the printer. The method comprises the steps of operating a transceiver and to transmit a first electromagnetic field, the field including a **code providing a command to read or write data** and the transponder associated with the container and the transponder including a memory. The transponder receives a first electromagnetic field and generates a second electromagnetic field in response to the code to provide a command to read data from the memory. The second electromagnetic field carries information relative to data stored in the memory. The memory has data stored therein and uniquely associated with the waste material in the container. The transponder, **in response to a code**, provides a **command to write** data that provides a signal to the memory to apply information from the first electromagnetic field into the memory. The feature of providing a transponder in a printer that is associated with a waste material container and having same operate in response to a code from a transceiver to both read and write data from the memory coupled with the transponder is not a feature described at all by Purcell and Dorez taken individually or in combination. For the above reasons it is submitted that claim 50 is also patentable over the prior art.

New **claim 54** is directed to a printer having a discrete receiver sheet consumable loaded therein in which the sheet-like member has a transponder attached thereto. The transponder includes a memory including data regarding characteristics of the stack of sheets forming the consumable. As noted on page 14 of the specification the discrete sheet may take the form of a loading sheet; i.e. it need not be used to place marks thereon but to instruct the printer as to the characteristics of the sheets loaded into the machine. The subject matter of claim 54 is submitted to be novel and unobvious over the disclosure of Purcell and Dorez taken individually or in combination which do not disclose a transponder coupled with a discrete sheet- like material associated with stack of sheets.

In view of the above amendments in remarks, it is submitted that all the claims remaining in the patent application are definite and patentable over the

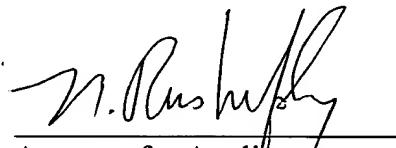
prior art. Amendments have been made to claims 18 and 36 to overcome the objections on definiteness considered by the Examiner by adopting the Examiner's suggestions. Furthermore, in view of the above amendments and remarks it is submitted that the application is now in condition for allowance prompt notice of which is earnestly solicited.

Submitted herewith for perusal by the Examiner is a translation of the PCT publication of Dorez as found in the counterpart Australian patent 1997 16071 B2.

The Examiner is invited to call the undersigned in the event that prosecution of the application may be advanced by telephone interview.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "Version With Markings To Show Changes Made."

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A printer of the type which selectively deposits a color [marking material] ink onto a receiver to form an image on the receiver, the printer being adapted to sense and update data uniquely associated with [a] an ink containing consumable [to be] loaded into the printer, comprising:

(a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the ink containing consumable;

(b) a transponder coupled to said ink containing consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field; and

(c) [a] the memory associated with the ink containing consumable, the memory being coupled to said transponder, said memory having [the] data stored therein uniquely associated with the ink containing consumable, whereby the second electromagnetic field carries the data stored in said memory while the second electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.

6. (Amended) [The printer of claim 1, wherein said] A printer of the type which selectively deposits a color marking material onto a receiver to form an image on the receiver, the printer being adapted to sense and update data uniquely associated with a cleaning fluid consumable loaded into the printer, comprising:

(a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the cleaning consumable;

(b) a transponder [is] coupled to said [a] cleaning fluid consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory and write updated data to the memory in accordance with an instruction code from the transceiver in the first electromagnetic field.

8. (Amended) A printer of the type which selectively deposits a color marking material onto a receiver to form an image on the receiver, the printer being adapted to sense data uniquely associated with a printer consumable to be loaded into the printer, comprising:

(a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field;

(b) a first transponder including a first memory coupled to a first consumable used by the printer; and

(c) a second transponder including a second memory coupled to a second consumable used by the printer, each of said first and second memories having data stored therein indicative of type of consumable, so that a selected one of either of said transponders is capable of receiving the first electromagnetic field and generating a second electromagnetic field in response to the first electromagnetic field received thereby, the second electromagnetic field being sensed by said transceiver and characteristic of the data stored in said memory, the data being associated with said selected transponder generating the second electromagnetic field; and

wherein the transceiver is adapted to alternately communicate with the first and second transponders.

17. (Amended) The printer of claim [8] 13, further comprising a fourth transponder including a fourth memory coupled to a fourth consumable, said fourth memory having data stored therein indicative of type of consumable.

19. (Amended) In a printer which operates to selectively deposit [a color marking material] ink onto a receiver to form an image on the receiver, a method for sensing data uniquely associated with [a] an ink consumable loaded into the printer, the method comprising the steps of:

(a) operating a transceiver to transmit a first electromagnetic field, the first electromagnetic field including a code providing a command to read or write data; and

(b) providing a transponder associated with the ink consumable, the transponder receiving the first electromagnetic field and generating a second electromagnetic field in response to the code in the first electromagnetic field providing a command to read data from a memory, the second electromagnetic field carrying information relative to data stored in [a] the memory, the memory being coupled to the transponder and having the data stored therein and uniquely associated with the ink consumable, and the transponder in response to a code providing a command to write data provides a signal to the memory to apply information from the first electromagnetic field into the memory.

20. (Amended) The method of claim 19, wherein the [step of providing a transceiver comprises the step of providing a] transceiver [that] transmits the first electromagnetic field at a predetermined first radio frequency.

21. (Amended) The method of claim 20, wherein the [step of coupling a transponder to the consumable comprises the step of coupling a] transponder [that] transmits the second electromagnetic field at a predetermined second radio frequency.

26. (Amended) In a printer which operates to selectively deposit a color marking material onto a receiver to form an image on the receiver, a

method of sensing data uniquely associated with a printer consumable loaded into the printer, the method comprising the steps of:

- (a) providing a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field;
- (b) providing a first transponder including a first memory coupled to a first consumable; and
- (c) providing a second transponder including a second memory coupled to a second consumable, each of the first and second memories having data stored therein indicative of type of consumable, the transceiver polling the respective transponders so that [a selected one of either of] each of the transponders [is capable of receiving the] is responsive to a respective first electromagnetic field emitted by the transceiver and [generating] each transponder generates a second electromagnetic field in response to the respective first electromagnetic field received thereby, the second electromagnetic field being sensed by the transceiver and characteristic of the data stored in the respective memory, the data being associated with the selected transponder generating the second electromagnetic field.

35. (Amended) The method of claim [26] 31, further comprising the step of providing a fourth transponder including a fourth memory coupled to a fourth consumable, the fourth memory having data stored therein indicative of type of consumable.

43. (Amended) [A] An ink container including an ink consumable for use in a printer and the container including a transponder and memory specially adapted for use in the method of claim [37] 19 and wherein the memory is coupled to the transponder and has data stored therein and uniquely associated with a consumable used in the printer, the transponder being adapted to receive energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the code indicating a read or write command for the memory, the energy being usable in accordance with a read code to generate a signal representing data stored in the memory about the consumable for sensing by the

transceiver and for a write code to write information into the memory providing an update of the amount of consumable used or remaining, and the memory storing an update of the consumable used from or remaining in the container.

The following new claims have been added:

50. In a printer which operates to selectively deposit a color marking material onto a receiver to form an image on the receiver, a method for sensing data uniquely associated with a waste material containing container loaded into the printer, the method comprising the steps of:

(a) operating a transceiver to transmit a first electromagnetic field, the first electromagnetic field including a code providing a command to read or write data; and

(b) providing a transponder associated with the container, the transponder including a memory, the transponder receiving the first electromagnetic field and generating a second electromagnetic field in response to the code in the first electromagnetic field that provides a command to read data from the memory, the second electromagnetic field carrying information relative to data stored in the memory, the memory being coupled to the transponder and having the data stored therein and uniquely associated with the waste material in the container, and the transponder in response to a code providing a command to write data provides a signal to the memory to apply information from the first electromagnetic field into the memory.

51. The printer of claim 50 and wherein the first electromagnetic field includes data regarding a current level of waste material in the container and the current level of waste material in the container is written into the memory.

52. The method of claim 19 and wherein the first electromagnetic field includes data regarding a current level of ink consumable and the data regarding current level of ink consumable is written into the memory.

53. The method of claim 19 and wherein the transceiver is blocked from overwriting of certain stored data in the memory.

54. A printer of the type which selectively deposits color marking material onto a receiver sheet to form an image on the receiver sheet, the printer being adapted to sense data uniquely associated with a receiver sheet consumable loaded into the printer, the printer comprising:

- (a) a transceiver for transmitting a first electromagnetic field and for sensing a second electromagnetic field, the first electromagnetic field containing data for writing into a memory associated with the receiver sheet consumable;
- (b) a transponder coupled to a sheet-like member that is part of a stack of discrete receiver sheets loaded in the printer, the discrete receiver sheets comprising the consumable, said transponder adapted to receive the first electromagnetic field and generate the second electromagnetic field in response to the first electromagnetic field received thereby, the transponder adapted to receive the energy from the first electromagnetic field that is generated by the transceiver and the energy comprising the only energy for powering the transponder and the transponder being adapted to read data from the memory; and
- (c) the memory associated with the receiver sheet consumable, the memory being coupled to said transponder, said memory having data stored therein uniquely associated with the receiver sheet consumable, whereby the second electromagnetic field carries the data stored in said memory while the second electromagnetic field is generated, the second electromagnetic field being characteristic of the data stored in said memory.